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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,513	03/29/2001	Alex Ruan	1-1	5445
22046	7590	05/03/2005	EXAMINER	
LUCENT TECHNOLOGIES INC. DOCKET ADMINISTRATOR 101 CRAWFORDS CORNER ROAD - ROOM 3J-219 HOLMDEL, NJ 07733			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,513

Applicant(s)

RUAN ET AL.

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,10-17 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,10-17 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 9, 19 and 25 are withdrawn in view of the newly discovered reference(s) to Egnell et al. US 6,590,681 (Egnell). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claim(s) 1 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Fatehi et al. US 6,192,172 B1 (Fatehi-172) in view of Frigo et al. US 5,742,414 (Frigo) and Egnell et al. US 6,590,681 (Egnell).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this

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rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 1

Fatehi-172 disclosed (Figure 3)

An apparatus for use in an optical network for providing specified communications signals to targeted recipients, said apparatus comprising: one or more cross-connect devices (300, 386, 388) for receiving communication signals on individual communication paths (373, 375, 377); and one or more optical multiplexer units having inputs (378, 380, 382) respectively coupled to outputs of said cross-connect devices, wherein said cross-connect devices are operable to selectively distribute said communication signals on said individual communications paths to none, some or all inputs of said optical multiplexer units for distribution to said targeted recipients (e.g., col./line: 2/5-15).

Fatehi-172 does not disclose wherein said specified communication signals are contained on various optical wavelengths, one or more selected wavelengths being representative of a target service for said target recipients. Frigo disclosed a system where different services are rendered to different users on different wavelengths (e.g., col./line: 6/50-65). It would have been obvious to one of ordinary skill in the art at the time of invention to deliver services over different wavelengths. One is motivated to deliver services as such so as to deliver services to different users in other than a broadcast fashion such as multicast and switched services as discussed in Frigo, see col./line: 4/15-60).

Fatehi-172 does not disclose a power splitter for splitting an incoming optical signal into a given number of outputs, wherein said optical network is a WDM network, further including one or more optical demultiplexing units respectively coupled between said power splitter and said cross-connect devices. Egnell disclosed a WDM network with a power splitter (17e of Figure 4) splitting an incoming signal and a demultiplexer (37e of Figure 4) deposited between the splitter and a cross-connect (39w of Figure 4). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Egnell wavelength distribution arrangement in the Fatehi-172 invention in order to efficiently reuse wavelengths, increase network capacity for a limited number of wavelengths

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in a reliable manner, e.g., see Egnell col./lines: 2/1-20.

Regarding claim 11, the modified invention of Fatehi-172, Frigo and Egnell disclosed wherein said cross-connect devices are MEMs devices (e.g., Fatehi-172 col./line: 9/27-31).

3. Claim(s) 1, 5-7, 10 and 12 are rejected under 35 U.S.C. 103(a) as being obvious over Fatehi et al. US 5,959,767 (Fatehi-767) in view of Frigo et al. US 5,742,414 (Frigo) and Egnell et al. US 6,590,681 (Egnell).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 1

Fatehi-767 disclosed (Figure 4)

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An apparatus for use in an optical network for providing specified communications signals to targeted recipients, said apparatus comprising: one or more cross-connect devices (403-1 to 403-M) for receiving communication signals on individual communication paths (401-1 to 401-M); and one or more optical multiplexer units having inputs (404-1 to 404-M) respectively coupled to outputs of said cross-connect devices, wherein said cross-connect devices are operable to selectively distribute said communication signals on said individual communications paths to none, some or all inputs of said optical multiplexer units for distribution to said targeted recipients (e.g., col./line: 5/45-67).

Fatehi-767 does not disclose wherein said specified communication signals are contained on various optical wavelengths, one or more selected wavelengths being representative of a target service for said target recipients. Frigo disclosed a system where different services are rendered to different users on different wavelengths (e.g., col./line: 6/50-65). It would have been obvious to one of ordinary skill in the art at the time of invention to deliver services over different wavelengths. One is motivated to deliver services as such so as to deliver services to different users in other than a broadcast fashion such as multicast and switched services as discussed in Frigo, see col./line: 4/15-60).

Fatehi-767 does not disclose a power splitter for splitting an incoming optical signal into a given number of outputs, wherein said optical network is a WDM network, further including one or more optical demultiplexing units respectively coupled between said power splitter and said cross-connect devices. Egnell disclosed a WDM network with a power splitter (17e of Figure 4) splitting an incoming signal and a demultiplexer (37e of Figure 4) deposited between the splitter and a cross-connect (39w of Figure 4). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Egnell wavelength distribution arrangement in the Fatehi-767 invention in order to efficiently reuse wavelengths, increase network capacity for a limited number of wavelengths in a reliable manner, e.g., see Egnell col./lines: 2/1-20.

Regarding claim 5

Fatehi-767 does not disclose wherein said network is dynamically reconfigurable depending on

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changing customer needs. Frigo disclosed a network where services can be switched or routed to individual customers (see Frigo e.g., col./line: 6/50-65).

It would have been obvious to one of ordinary skill in the art at the time of invention to have a dynamic reconfigurable feature in the network so that a customer could select from the plurality of services offered in the network system.

Regarding claim 6

The modified invention of Fatehi-767 and Frigo does not disclose a controller coupled to cross-connect devices and said optical multiplexers, said controller being operable to track connections and signal distribution of said cross-connect devices and said optical multiplexer units to thereby determine usage of said specified communications signal by said targeted recipients. However Frigo does disclose a CO (99 of Figure 12) that is able to switch services to different users. It would have been obvious to one of ordinary skill in the art at the time of invention to track where services are switched in the network to ensure that services are delivered to the subscribing customer and is therefore billable.

Regarding claim 7

the modified invention of Fatehi-767 and Frigo disclosed wherein said cross-connects include M inputs and said optical multiplexers include N outputs, said connections between said cross-connect devices and said optical multiplexer units being divided into M/N groups (Fatehi - figure 4).

Regarding claim 10

The modified invention of Fatehi-767 and Frigo does not disclose wherein multiple ones of said apparatus are hierarchically distributed within said network. However, it would have been obvious to one of ordinary skill in the art at the time of invention to hierarchically distribute the selective switches in the network to geometrically expand the number of users accessible by the network as is well understood in the art.

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Regarding claim 12,

Fatehi-767 does not disclose wherein the apparatus is used within a network with upstream communications. Frigo disclosed upstream network (83 and 86 of Figures 11A and 11B) communication. It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi-767 distribution apparatus in a network with upstream communications such as Frigo's so that the network would be dynamic and responsive to customer commands rather than a traditional one-way broadcasting system.

4. Claims 2, 4, 13 - 17, and 20 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi et al. US 5,959,767 (Fatehi-767), Frigo et al. US 5,742,414 (Frigo) and Egnell et al. US 6,590,681 (Egnell) as applied to claim 1 above, and in further view of Pimpinella US 6,396,573 B1 (Pimpinella).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of

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the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 2, 4, 13, 14, 21, 22

The modified invention of Fatehi-767, Frigo and Egnell does not disclose that the apparatus is used within a passive optical network (PON). Pimpinella disclosed a CATV PON (figure 2). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Fatehi-767 and Frigo apparatus in the Pimpinella distribution system to gain the benefits of a loss-less broadcasting system for WDM networks such as PONs, see Fatehi-767 e.g., col./line: 3/1-5, 64-67, 4/1-5).

Regarding claim 15

Fatehi-767 does not disclose wherein said network is dynamically reconfigurable depending on changing customer needs. Frigo disclosed a network where services can be switched or routed to individual customers (see Frigo e.g., col./line: 6/50-65).

It would have been obvious to one of ordinary skill in the art at the time of invention to have a dynamic reconfigurable feature in the network so that a customer could select from the plurality of services offered in the network system.

Regarding claims 16, 23

The modified invention of Fatehi-767, Frigo and Pimpinella does not disclose a controller coupled to cross-connect devices and said optical multiplexers, said controller being operable to track connections and signal distribution of said cross-connect devices and said optical multiplexer units to thereby determine usage of said specified communications signal by said targeted recipients.

However Frigo does disclose a CO (99 of Figure 12) that is able to switch services to different users.

It would have been obvious to one of ordinary skill in the art at the time of invention to track where services are switched in the network to ensure that services are delivered to the subscribing customer

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and is therefore billable.

Regarding claim 17

The modified invention of Fatehi-767, Frigo and Pimpinella disclosed wherein said cross-connects include M inputs and said optical multiplexers include N outputs, said connections between said cross-connect devices and said optical multiplexer units being divided into M/N groups (Fatehi - figure 4).

Regarding claim 20

The modified invention of Fatehi-767, Frigo and Pimpinella does not disclose wherein multiple ones of said apparatus are hierarchically distributed within said network. However, it would have been obvious to one of ordinary skill in the art at the time of invention to hierarchically distribute the selective switches in the network to geometrically expand the number of users accessible by the network as is well understood in the art.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

A handwritten signature in black ink, appearing to read "David C. Payne". The signature is fluid and cursive, with the first name "David" and last name "Payne" clearly distinguishable.

David C. Payne
Patent Examiner
AU 2633